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MEMORANDUM

TO: SLDMWA Water Resources Committee Members and Alternates

FROM: Scott Petersen, Water Policy Director

DATE: June 3, 2024

RE: Update on Water Policy/Resources Activities

Background

This memorandum is provided to briefly summarize the current status of various agency processes regarding water policy activities, including but not limited to the (1) Reinitiation of Consultation on Long-Term Operations of the Central Valley Project and State Water Project, including environmental compliance; (2) State Water Resources Control Board action; (3) San Joaquin River Restoration Program; (4) Delta conveyance; (5) Reclamation action; (6) Delta Stewardship Council action; (7) San Joaquin Valley Water Blueprint and San Joaquin Valley Water Collaborative Action Plan.

Policy Items

Reinitiation of Consultation on Long-Term Operations of the Central Valley Project and State Water Project

In August 2016, the Bureau of Reclamation and California Department of Water Resources (DWR) requested reinitiation of consultation with NOAA Fisheries, also known as National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (FWS) due to multiple years of drought, low populations of listed species, and new information developed as a result of ongoing collaborative science efforts over the last 10 years.

On Jan. 31, 2019, Reclamation transmitted its Biological Assessment to the Services. The purpose of this action is to continue the coordinated long-term operation of the CVP and SWP to optimize water supply delivery and power generation consistent with applicable laws, contractual obligations, and agreements; and to increase operational flexibility by focusing on nonoperational measures to avoid significant adverse effects to species.

The biological opinions carefully evaluated the impact of the proposed CVP and SWP water operations on imperiled species such as salmon, steelhead and Delta smelt. FWS and NMFS documented impacts and worked closely with Reclamation to modify its proposed operations to minimize and offset those impacts, with the goals of providing water supply for project users and protecting the environment.

Both FWS and NMFS concluded that Reclamation's proposed operations will not jeopardize threatened or endangered species or adversely modify their critical habitat. These conclusions were reached for

several reasons – most notably because of significant investments by many partners in science, habitat restoration, conservation facilities including hatcheries, as well as protective measures built into Reclamation's and DWR's proposed operations.

On Oct. 21, 2019, FWS and NMFS released their biological opinions on Reclamation's and DWR's new proposed coordinated operations of the CVP and SWP.

On Dec. 19, 2019, Reclamation released the final Environmental Impact Statement analyzing potential effects associated with long-term water operations for the CVP and SWP.

On Feb. 18, 2020, Reclamation approved a Record of Decision that completes its environmental review for the long-term water operations for the CVP and SWP, which incorporates new science to optimize water deliveries and power production while protecting endangered species and their critical habitats.

On January 20, 2021, President Biden signed an Executive Order: "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis", with a fact sheet[1] attached that included a non-exclusive list of agency actions that heads of the relevant agencies will review in accordance with the Executive Order. Importantly, the NOAA Fisheries and U.S. Fish and Wildlife Service Biological Opinions on the Long-Term Operation of the Central Valley Project and State Water Project were both included in the list of agency actions for review.

On September 30, 2021, Reclamation Regional Director Ernest Conant sent a letter to U.S. FWS Regional Director Paul Souza and NMFS Regional Administrator Barry Thom requesting reinitiation of consultation on the Long-Term Operation of the CVP and SWP. Pursuant to 50 CFR § 402.16, Reclamation indicated that reinitiation is warranted based on anticipated modifications to the Proposed Action that may cause effects to listed species or designated critical habitats not analyzed in the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) Biological Opinions, dated October 21, 2019. To address the review of agency actions required by Executive Order 13990 and to voluntarily reconcile CVP operating criteria with operational requirements of the SWP under the California Endangered Species Act, Reclamation and DWR indicated that they anticipate a modified Proposed Action and associated biological effects analysis that would result in new Biological Opinions for the CVP and SWP.

Following this action, on October 20, 2021, the SLDMWA sent a letter to Reclamation Regional Director Ernest Conant requesting participation in the reinitiation of consultation pursuant to Section 4004 of the WIIN Act and in the NEPA process as either a Cooperating Agency or Participating Agency.

On February 26, 2022, the Department of the Interior released a Notice of Intent To Prepare an Environmental Impact Statement (EIS) and Hold Public Scoping Meetings on the 2021 Endangered Species Act Reinitiation of Section 7 Consultation on the Long-Term Operation of the Central Valley Project and State Water Project[2]. In response to this, on March 30, 2022, the SLDMWA submitted a comment letter highlighting actions for Reclamation to consider during preparation of the EIS.

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[1] https://www.whitehouse.gov/briefing-room/statements-releases/2021/01/20/fact-sheet-list-of-agency-actions-for-review/

[2] https://www.govinfo.gov/content/pkg/FR-2022-02-28/pdf/2022-04160.pdf

During May 2022, Reclamation issued draft copies of the Knowledge Base Papers for the following management topics and requested supplementary material review and comments, to which the Authority submitted comment letters in June:

1. Spring-run Juvenile Production Estimate- Spring-run Survival Knowledge Base Document, May 2022
2. Steelhead Juvenile Production Estimate-Steelhead Survival Knowledge Base Document, April 2022
3. Old and Middle River Reverse Flow Management – Smelt, Chinook Salmon, and Steelhead Migration and Survival Knowledge Base Document, May 2022
4. Central Valley Tributary Habitat Restoration Effects on Salmonid Growth and Survival Knowledge Based Paper, March 2022
5. Delta Spring Outflow Management Smelt Growth and Survival Knowledge Base Document, May 2022
6. Pulse Flow Effects on Salmonid Survival Knowledge Base Document, May 2022
7. Summer and Fall Habitat Management Actions – Smelt Growth and Survival Knowledge Base Document, May 2022
8. Shasta Cold Water Pool Management – End of September Storage Knowledge Base Document, May 2022

Subsequent to the Knowledge Base Paper review, a Scoping Meeting was held, to which Water Authority staff provided comments, resulting in the release of a Scoping Report[3] by Reclamation in June 2022.

On October 14, 2022, Reclamation released an Initial Alternatives Report (IAR).

On May 16, 2023, Reclamation provided an administrative draft copy of the Proposed Action, titled "State and Federal Cooperating Agency Draft LTO Alternative" to agencies that have executed an MOU with Reclamation on engagement. Authority staff is reviewing the document and provided feedback to Reclamation, in coordination with member agencies and other CVP contractors.

On June 30, 2023, Reclamation released a draft Qualitative Biological Assessment for review by agencies that have executed an MOU with Reclamation on engagement, though Reclamation is not accepting formal comments. Note that this release does not initiate formal ESA consultation and is being provided to assist the fishery agencies in setting up their documents and resources for the formal consultation, which we expect to begin in late September/early October.

On July 21, 2023, Reclamation released an Administrative Draft Terrestrial Biological Assessment for review by agencies that have an MOU with Reclamation on engagement, though Reclamation is not accepting formal comments. Note that this release does not initiate formal ESA consultation and is being provided to assist the fishery agencies in setting up their documents and resources for the formal consultation, which we expect to begin in late September/early October.

On September 15, Reclamation released a Draft Environmental Impact Statement for 30-day NEPA Cooperating Agency review. The SLDMWA coordinated review of the document with member agencies

[3] https://www.usbr.gov/mp/bdo/docs/lto-scoping-report-2022.pdf

and technical consultants and submitted both high-level and technical comments on the document[4] on October 16.

On October 10, 2023, Reclamation transmitted an Aquatic species Quantitative Biological Assessment, and on October 18, 2023, Reclamation transmitted a Terrestrial Species Quantitative Biological Assessment to the Services and to consulting agencies pursuant to the WIIN Act.

On April 5, 2024, Reclamation released the 2nd Cooperating Agency Draft EIS for a two-week comment period. After review and coordination with member agencies, Authority staff provided a comment letter[5] to Reclamation on the document.

Additionally, on April 26, 2024, the U.S. Fish and Wildlife Service and National Marine Fisheries Service held a meeting under Section 4004 of the Water Infrastructure Improvements for the Nation (WIIN) Act, which provided information on the upcoming Services work product on the ESA consultation.

On June 11, 2024, from 1 – 3 p.m., Reclamation will hold a quarterly meeting to provide an update on the development of the Biological Assessment for the 2021 Reinitiation of Consultation on the Long-Term Operation of the Central Valley Project and State Water Project, pursuant to the Water Infrastructure Improvements for the Nation Act. The meeting will be held virtually on Microsoft Teams. For meeting materials, including the link to the meeting, please see www.usbr.gov/mp/bdo.

Current Milestones

- Jun 28: Draft LTO FWS Biological Opinion (BiOp) (2-week review)
- Jul 5: Draft LTO Public EIS (45-day review)
- Jul 15: Draft LTO FWS BiOp Comments Due
- Jul 26: Draft LTO NMFS BiOp (2-week review)
- Jul 29: Draft LTO FWS BiOp Peer Review complete
- Aug 12: Draft LTO NMFS BiOp Comments Due
- Aug 20: Draft LTO Public EIS Comments Due
- Aug 30: Draft LTO NMFS BiOp Peer Review Complete
- Sep: Trinity Modeling
- Oct 15: Final LTO FWS BiOp
- Nov 13: Final LTO EIS
- Dec 6: Final LTO NMFS BiOp
- Dec 13: Final LTO Record of Decision
- Early 2025: Trinity Cooperating Agency Draft EIS/Draft Biological Assessment
- Spring 2025: Trinity Public Draft EIS
- Late 2025: Trinity Biological Opinion, Final NEPA and ROD

[4] Request from Authority staff.

[5] Request from Authority staff.

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Note: There are also Endangered Species Act consultations on the Trinity River and Klamath River that may have overlap/interactions with the consultation for the CVP/SWP.

Delta Science Program Independent Peer Review

In April, at the request of the U.S. Bureau of Reclamation, the Delta Science Program has completed the facilitation of an independent scientific peer review of Reclamation's Fish and Aquatic Effects Analysis for the long-term operations (LTO) of the federal Central Valley Project (CVP) and State Water Project (SWP).

The peer review panel, consisting of five subject-matter experts, has completed its review of the relevant technical appendices that describe the literature, models, and tools used. The Aquatic Effects Analysis informs a Biological Assessment, which is necessary when a federal agency is proposing an action that may affect Endangered Species Act (ESA) listed species. The panel also reviewed several ESA-listed species chapters from the draft Biological Assessment. The final report includes the panel's responses to the charge questions and provides guidance for improving the analytical approach used.

State Water Resources Control Board (State Water Board) Activity

Bay Delta Water Quality Control Plan Update

Background

The State Water Board is currently considering updates to its 2006 Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary ("Bay Delta Plan") in two phases (Plan amendments). The first Plan amendment is focused on San Joaquin River flows and southern Delta salinity ("Phase I" or "San Joaquin River Flows and Southern Delta Salinity Plan Amendment"). The second Plan amendment is focused on the Sacramento River and its tributaries, Delta eastside tributaries (including the Calaveras, Cosumnes, and Mokelumne rivers), Delta outflows, and interior Delta flows ("Phase II" or "Sacramento/Delta Plan Amendment").

During the December 12, 2018 Water Board Meeting, the Department of Water Resources ("DWR") and Department of Fish and Wildlife presented proposed "Voluntary Settlement Agreements" ("VSAs") on behalf of Reclamation, DWR, and the public water agencies they serve to resolve conflicts over proposed amendments to the Bay-Delta Plan update.[6] The State Water Board did not adopt the proposed VSAs in lieu of the proposed Phase 1 amendments, but as explained below, directed staff to consider the proposals as part of a future Delta-wide proposal.

Phase 1 Status: The State Water Board adopted a resolution[7] to adopt amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary and adopt the Final Substitute Environmental Document during its December 12, 2018 public meeting.

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[6] Available at https://water.ca.gov/-/media/DWR-Website/Web-Pages/Blogs/Voluntary-Settlement-Agreement-Meeting-Materials-Dec-12-2018-DWR-CDFW-CNRA.pdf.

[7] Available at https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/rs2018_0059.pdf.

Most recently, on July 18, 2022, the State Water Resources Control Board issued a Notice of Preparation (NOP)[8] and California Environmental Quality Act (CEQA) Scoping Meeting for the Proposed Regulation to Implement Lower San Joaquin River Flows (LSJR) and Southern Delta Salinity Objectives in the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta (Bay-Delta Plan).

The purpose of the NOP is: (1) to advise responsible and trustee agencies, Tribes, and interested organizations and persons, that the State Water Board or Board will be the lead agency and will prepare a draft EIR for a proposed regulation implementing the LSJR flow and southern Delta salinity components of the 2018 Bay-Delta Plan, and (2) to seek input on significant environmental issues, reasonable alternatives, and mitigation measures that should be addressed in the EIR. For responsible and trustee agencies, the State Water Board requests the views of your agency as to the scope and content of the environmental information related to your agency's area of statutory responsibility that must be include in the draft EIR.

In response to the release of the NOP, the Water Authority and member agencies provided scoping comments[9].

Phase 2 Status: In the State Water Board's resolution adopting the Phase 1 amendments, the Water Board directed staff to assist the Natural Resources Agency in completing a Delta watershed-wide agreement, including potential flow and non-flow measures for the Tuolumne River, and associated analyses no later than March 1, 2019. Staff were directed to incorporate the Delta watershed-wide agreement as an alternative for a future, comprehensive Bay-Delta Plan update that addresses the reasonable protection of beneficial uses across the Delta watershed, with the goal that comprehensive amendments may be presented to the State Water Board for consideration as early as possible after December 1, 2019.

On March 1, 2019, the California Department of Water Resources and the Department of Fish and Wildlife submitted documents[10] to the State Water Board that reflect progress since December to flesh-out the previously submitted framework to improve conditions for fish through targeted river flows and a suite of habitat-enhancing projects including floodplain inundation and physical improvement of spawning and rearing areas.

Since the March 1 submittal, work has taken place to develop the package into a form that is able to be analyzed by State Water Board staff for legal and technical adequacy. On June 30, 2019, a status update with additional details was submitted to the Board for review. Additionally, on February 4, 2020, the State team released a framework for the Voluntary Agreements to reach "adequacy", as defined by the State team.

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[8] Available at https://www.waterboards.ca.gov/public_notices/notices/20220715-implementation-nop-and-scoping-dwr-baydelta.pdf

[9] Request from Authority staff

[10] Available at http://resources.ca.gov/docs/voluntary-agreements/2019/Complete_March_1_VA_Submission_to_SWRCB.pdf

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Further work and analysis is needed to determine whether the agreements can meet environmental objectives required by law and identified in the State Water Board's update to the Bay-Delta Water Quality Control Plan.

On September 28, The State Water Resources Control Board released a draft Staff Report in support of possible updates to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan) that are focused on the Sacramento River watershed, Delta, and Delta eastside tributaries (Sacramento/Delta).

The draft Staff Report includes scientific information and environmental and economic evaluations to support possible Sacramento/Delta updates to the Bay-Delta Plan. The report assesses a range of alternatives for updating the Sacramento/Delta portions of the Bay-Delta Plan, including: an alternative based on a 2018 Framework document identifying a 55% of unimpaired flow level (within an adaptive range from 45-65%) from Sacramento/Delta tributaries and associated Delta outflows; and a proposed voluntary agreements alternative that includes voluntary water contributions and physical habitat restoration on major tributaries to the Delta and in the Delta. In addition, based on input from California Native American tribes, the draft Staff Report identifies the proposed addition of tribal and subsistence fishing beneficial uses to the Bay-Delta Plan.

The draft Staff Report is available for review on the Board's website. The Authority coordinated and submitted comments with member agencies[11].

Schedule

LSJR Flow/SD Salinity Implementation Next Steps Assuming Regulation Path (Phase 1)

- Winter 2024/Spring 2025
  - Final draft Staff Report for Tuolumne River VA
  - Board workshop and consideration of Tuolumne River VA
  - Final draft EIR and regulation implementing Lower SJR flows and South Delta Salinity
  - Board consideration of regulation implementing Lower SJR flows and South Delta Salinity

Sac/Delta Update: Key Milestones

- Summer 2024: Development of Draft Program of Implementation
- Winter 2024: Response to comments and development of proposed final changes to the Bay-Delta Plan
- Spring 2025: Board consideration of adoption

Voluntary Agreements

On March 29, 2022, members of the Newsom Administration joined federal and local water leaders in announcing the signing of a memorandum of understanding[12] that advances integrated efforts to improve

[11] Request from Authority staff.

[12] Available at https://resources.ca.gov/-/media/CNRA-Website/Files/NewsRoom/Voluntary-Agreement-Package-March-29-2022.pdf

ecosystem and fisheries health within the Sacramento-San Joaquin Bay-Delta. State and federal agencies also announced an agreement[13] specifically with the Sacramento River Settlement Contractors on an approach for 2022 water operations on the Sacramento River.

Both announcements represent a potential revival of progress toward what has been known as "Voluntary Agreements," an approach the Authority believes is superior to a regulatory approach to update the Bay-Delta Water Quality Control Plan.

The broader MOU outlines terms for an eight-year program that would provide substantial new flows for the environment to help recover salmon and other native fish. The terms also support the creation of new and restored habitat for fish and wildlife, and provide significant funding for environmental improvements and water purchases, according to a joint news release from the California Natural Resources Agency and the California Environmental Protection Agency (CalEPA). Local water agency managers signing the MOU have committed to bringing the terms of the MOU to their boards of directors for their endorsement and to work to settle litigation over engaged species protections in the Delta.

On June 16, the SLDMWA, Friant Water Authority and Tehama Colusa Canal Authority signed onto the VA MOU. Additionally, since that time, in September and November, four more agencies – Contra Costa Water District, San Francisco Public Utilities Commission (SFPUC), Turlock Irrigation District (TID) and Modesto Irrigation District (MID) – have signed onto the VA MOU.

Work continues to develop the working documents associated with execution and implementation of the VA's and workgroups for participating agencies have been formed. A number of documents continue to be developed, including a global agreement, implementing agreements for each tributary, enforcement agreements, an updated Science Plan, and governance plan.

On April 24-26, the State Water Resources Control Board held a three-day workshop on the Agreements, with sessions focused on many of the more developed plans and details of the program.

San Joaquin River Restoration Program

Restoration Flows

Starting on Friday, April 26, the San Joaquin River Restoration Program (Program) began releasing a scheduled pulse flow on the San Joaquin River. Friant Dam releases increased to 1150 cubic-feet-per-second (cfs) for one day, then decreased to 850 cfs from April 28 to May 5. Then, from May 6 to May 14 Friant Dam releases will decrease by 50 cfs per day to 450 cfs before leveling off to between 390 cfs - 465 cfs through September. This pulse of flows is intended to replicate a more natural river hydrology and optimize conditions for outmigrating juvenile and returning adult spring-run Chinook salmon.

The pulse flows are part of the updated Restoration Flow schedule approved by the Bureau of Reclamation for the 2024 water year. The 2024 Restoration Allocation provides a total 325,804 acre-feet for Restoration Flows under a Normal-Wet water year type. This water year is expected to produce runoff that is close to average — a condition not experienced since 2010.

[13] Available at https://calepa.ca.gov/2022/03/29/informational-statement-state-federal-agencies-and-sacramento-river-settlement-contractors-agree-on-approach-for-2022-water-operations-on-the-sacramento-river/

Following the pulses in early May, releases from Friant Dam will slowly decline until stabilizing in late May and throughout the summer. Restoration Flows increase again in autumn into winter coinciding with salmon reproduction, incubation, and juvenile fry emergence. Two more smaller pulses of water are tentatively scheduled to be released from Friant Dam in autumn.

The Restoration Allocation will be updated once more in May, and in response the Restoration Administrator may adjust flows or add additional features to the planned hydrograph.

The Restoration Flow schedule has been set to the following:

Date	**Friant Dam Releases**	**Flows Rate at Gravelly Ford**
April 1 – April 25	570 cfs	380 cfs
April 26 – May 5	Pulse — increasing quickly to 1150 cfs holding at that level for 1 day, then decreasing to 850 cfs and holding that level through May 5	Rising to 650 cfs and maintaining that flow for approximately 10 days
May 6 – May 14	850 cfs decreasing 50 cfs per day to 450 cfs	650 cfs gradually falling to 185 cfs
May 15 – September 30	390 – 465 cfs as required to meet the flow target at Gravelly Ford	185 – 195 cfs
November 1 – December 31	400 – 480 cfs as required to meet the flow target at Gravelly Ford (except higher during pulses)	235 cfs (except two pulses reaching 475 cfs, one pulse in November and one pulse in December)
January 1 – February 28, 2025	Approximately 400 cfs	255 cfs

For Information about Restoration Flows, please visit http://www.restoresjr.net/restoration-goal/restoration-flows/. For the Restoration Administrator recommendations, please visit http://www.restoresjr.net/documentsreports/ra-recommendations/

Delta Conveyance Project

Petition for Change of Point of Diversion and Rediversion for the Delta Conveyance Project

On February 22, 2024, the State Water Resources Control Board (Board) received a Petition for Change from the Department of Water Resources (DWR) to add two new points of diversion (POD) and rediversion (PORD) to the water right permits associated with the State Water Project. Specifically, the petition seeks

to change Water Right Permits 16478, 16479, 16481, and 16482 (Applications 5630, 14443, 14445A, and 17512, respectively). The proposed new PODs/PORDs would consist of screened intakes 2.3 miles apart located on the lower Sacramento River between Freeport and Sutter Slough. The proposed new intakes are part of the Delta Conveyance Project, which would allow DWR to divert water from the northern Sacramento-San Joaquin Delta Estuary (Delta) and convey the water through a tunnel to existing water distribution facilities in the southern Delta.

This petition is available on the DWR website at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Delta-Conveyance/Public-Information/Revised_DCP_CPOD_Petition_Package_2024.pdf

Protests against the change petition must have been filed by May 13, 2024, with a copy provided to the petitioner. SLDMWA entered into a Settlement Agreement[14] with DWR on the project.

U.S. Bureau of Reclamation

Reclamation Manual

Documents out for Comment

Draft Policy

- There are currently no Draft Policies out for review.

Draft Directives and Standards

- There are currently no Draft Directives and Standards out for review.

Draft Facilities Instructions, Standards, and Techniques (FIST)

- There are currently no Instructions, Standards, and Techniques our for review.

Draft Reclamation Safety and Health Standards (RSHS)

- There are currently no Safety and Health Standards out for review.

Draft Reclamation Design Standards

- There are currently no Design Standards out for review.

Delta Stewardship Council

Draft Delta Plan Five Year Review Comment Period

The Delta Stewardship Council has conducted another five-year review of the Delta Plan to evaluate progress in implementing its policies, recommendations, and performance measures and is now seeking public input on the findings and recommendations.

The 2024 Five-Year Review follows up on the first Five-Year Review adopted by the Council in 2019. The new report uses established performance measures to provide a snapshot of measured progress toward Delta Plan objectives. Performance measure evaluations are organized into topic-specific "report cards" that consider the portion of each performance measure's target achieved.

It also includes:

[14] Request from Authority staff.

- an analysis of the Delta Plan's regulatory functions and a series of recommendations, along with
- associated actions to outline how the Council and our partners can implement the Delta Plan over the next five years.

Public comments are open until **June 10, 2024.**

San Joaquin Valley Water Blueprint

The Water Blueprint for the San Joaquin Valley (Blueprint) is a non-profit group of stakeholders, working to better understand our shared goals for water solutions that support environmental stewardship with the needs of communities and industries throughout the San Joaquin Valley.

Blueprint's strategic priorities for 2022-2025: Advocacy, Groundwater Quality and Disadvantaged Communities, Land Use Changes & Environmental Planning, Outreach & Communications, SGMA Implementation, Water Supply Goals, Governance, Operations & Finance.

Mission Statement: *"Unifying the San Joaquin Valley's voice to advance an accessible, reliable solution for a balanced water future for all.*

Committees

Executive/Budget/Personnel

Blueprint contribution requests have been circulated and Board members will be following up with participants. Hallmark's revised scope for defined services and deliverables (Develop & implement a strategic plan to protect operational flexibility of the 2019 Bi Ops) has been approved and will run from 3/1-8/31 and has been approved by the Board, with consultation from an ad-hoc committee of public water agency technical and policy professionals.

- Urban Water Agency Partnerships: A MOU with Metropolitan Water District and the Blueprint was executed at a signing ceremony at ACWA; the MOU includes the participation, review and analysis of groundwater storage and conveyance opportunities in the Central Valley. Stantec is helping develop the scope, budget and define deliverables for this work in coordination with the Blueprint, MET and DWR (technical assistance).

Technical Committee

Two specific priorities/efforts to help bridge the water deficit in the San Joaquin Valley, the Patterson ID conveyance project, and Delta Operations have been selected. The committee is evaluating total recharge opportunities and potential environmental enhancement and utilization. For details of the most recent Technical Committee meeting, please see Appendix A.

Activities

Farmer to Farmer Summit – Third Session

The farmer-to-farmer delegates have been reengaged to further regional communication and will be participating in additional water solution facilitation, with a focus on Levee Maintenance & Enhancement projects and the South Delta Gates Project (permanent operable gates). Summit delegates gathered May 21st in Modesto.

Unified Water Plan for the San Joaquin Valley

The Water Blueprint for the San Joaquin Valley Education Fund and the California Water Institute - Research and Education Division are working together to develop a Unified Water Plan for the San Joaquin Valley. This two-year project will culminate in the publication of a report to be submitted to Congress. Additionally, the California Water Institute (CWI) team is focused on the viability and success of the organization. In an effort to ensure they are planning for their future; they have decided to undertake strategic planning. Over the coming months they will be working with Amy Wolfe from Mujeres Poderosas, LLC to invest time and energy into creating a robust, relevant, and actionable road map forward for CWI.

Regulatory Alignment Strategic Plan

The Hallmark Group was tasked by the Water Blueprint for the San Joaquin Valley to develop and implement a strategic plan for the primary objective of protecting the operational flexibility restored by 2019 Biological Opinions and 2020 Record of Decision for Coordinated Long-Term Operations of the Central Valley Project and State Water Project, which restored approximately 300,000 acre-feet to the average south-of-Delta delivery capability of the Projects, and to expand operational flexibility for the CVP and SWP. As part of its work plan, Hallmark developed an outline of a strategic plan related to engagement with agencies that impact operations of the CVP/SWP and associated water supply. The outline is organized into four principal topics: (1) objectives; (2) obstacles to achieving objectives; (3) means of overcoming obstacles; and (4) time frame.

The next step is for Hallmark to develop a more detailed Strategic Plan, which is anticipated to be presented to the Blueprint Board at a subsequent Board meeting, after review by the Ad-Hoc Advisory Workgroup.

San Joaquin Valley Water Collaborative Action Program (SJVW CAP)

Background

The CAP Plenary Group adopted work groups to implement the CAP Term Sheet[15], adopted on November 22, 2022. During Phase II, Work Groups are continuing to meet and discuss priorities and drafting various documents for their respective areas: Safe Drinking Water; Sustainable Water Supplies; Ecosystem Health; Land Use, Demand Reduction and Land Repurposing; Implementation.

The Plenary group advanced a letter on solar recommendations[16], as well as continued discussion about the development of potential project lists for consideration for advancement to the Central Valley Community Foundation's Jobs First Initiative[17], where CAP will be assisting the Foundation to develop the "One Water" portion of the proposal.

[15] Request from Authority staff

[16] Request from Authority staff

[17] Request from Authority staff

APPENDIX A

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Water Blueprint

for the San Joaquin Valley

MEETING INFORMATION			
Meeting Title	**Technical Work Group**	Date	**05/24/2024**

MAIN POINTS OF DISCUSSION

- Scott Hamilton gave a Blueprint update. A graphic was shared showing the Supplemental Water Supply Objectives by Region. Another graphic shared the Availability of Underground water.
- There was a question about the supplemental water supply objectives, and what the constraints of maximum input there is.
- There was a discussion about the Potential Contribution of Delta Water. Stantec has been looking at two conveyance alternatives, showing areas with soils potentially suitable for recharge.

- A PowerPoint presentation was shared by Scott showing A Needs Based Approach to Identifying Key Water Concepts & Projects for the SJV.
- The Needs presented were: Water Supply - Achieving Groundwater Sustainability, Water Supply - Environmental Enhancement, Flood Management, Water Quality, Water Supply Reliability, and Water Conveyance & Reregulation Projects.

- A comment was made about reservoir reoperation projects that are currently underway, and wanting to be mindful in terms of recapture potential that the reoperation on Pine Flat and Big Dry Creek Reservoir are being captured and documented as potential additional projects.

- A map was shared that shows the subbasin numbers with Blueprint's compilation of shortages at the GSA level. The map showed the projected shortages by 2040 assuming no action taken and climate change continuing.
- There was a comment about the GSP for Delta Mendota being updated, making the numbers not fully accurate until that update.

- A list of projects were shared that may improve water supplies to subbasins. The project list was sorted by local and inter-regional project. Each project's possible outcomes were also sorted in different columns, which included: Expand Recharge Capacity, Expand Distribution System, Treat Groundwater/Waster Water, Delta Exports, and Conveyance. There was a request to add a column to include Surface Storage and Reoperation Components.
- Storage projects were also shared, but there was a recommendation of focusing on projects that are multi-benefit. Currently, the list of storage projects included: Shasta Enlargement, Los Vaqueros Expansion, San Luis Enlargement, Mammoth Pool Enlargement, Los Banos Grande, Raise Pine Flat Dam, Big Dry Creek, Local F-K Projects, Del Puerto Canyon Reservoir, Yokohl Valley, Fine Gold Creek, and the Los Banos Creek Detention Reservoir Expansion.
- There was a comment advising caution about segregating local and inter-regional projects as the Blueprint's messaging is aimed at being supportive to those projects.
- The group reviewed the Peak Flood flows in 2023, showing there were 36,700 cfs. There is not enough recharge capacity to bring it down to 15,000 cfs. Some potential solutions may be expanding recharge, conveying flood water out of the Valley, and reconnecting floodplains.
- At the next Technical Work Group Meeting, the group will be further discussing the Water Quality, Water Supply Reliability, and Water Conveyance & Reregulation Projects Needs.
- There was a suggestion to work with Jim Wieking or Jenny Marr of DWR to walk through key findings.
- The next Technical Work Group meeting will be held on **June 28th, 2024 at 1:30 PM.**

RESOURCES

Blueprint Update PowerPoint Presentation:
https://drive.google.com/file/d/1dPnKgY0tBAxx7_exOoAPvm4yUpUh8ftq/view?usp=sharing

Project Concepts PowerPoint Presentation:
https://drive.google.com/file/d/1LZbSFQZqJsoTHdoAS8l9YfIZzBRlmJNN/view?usp=sharing

Blueprint Update

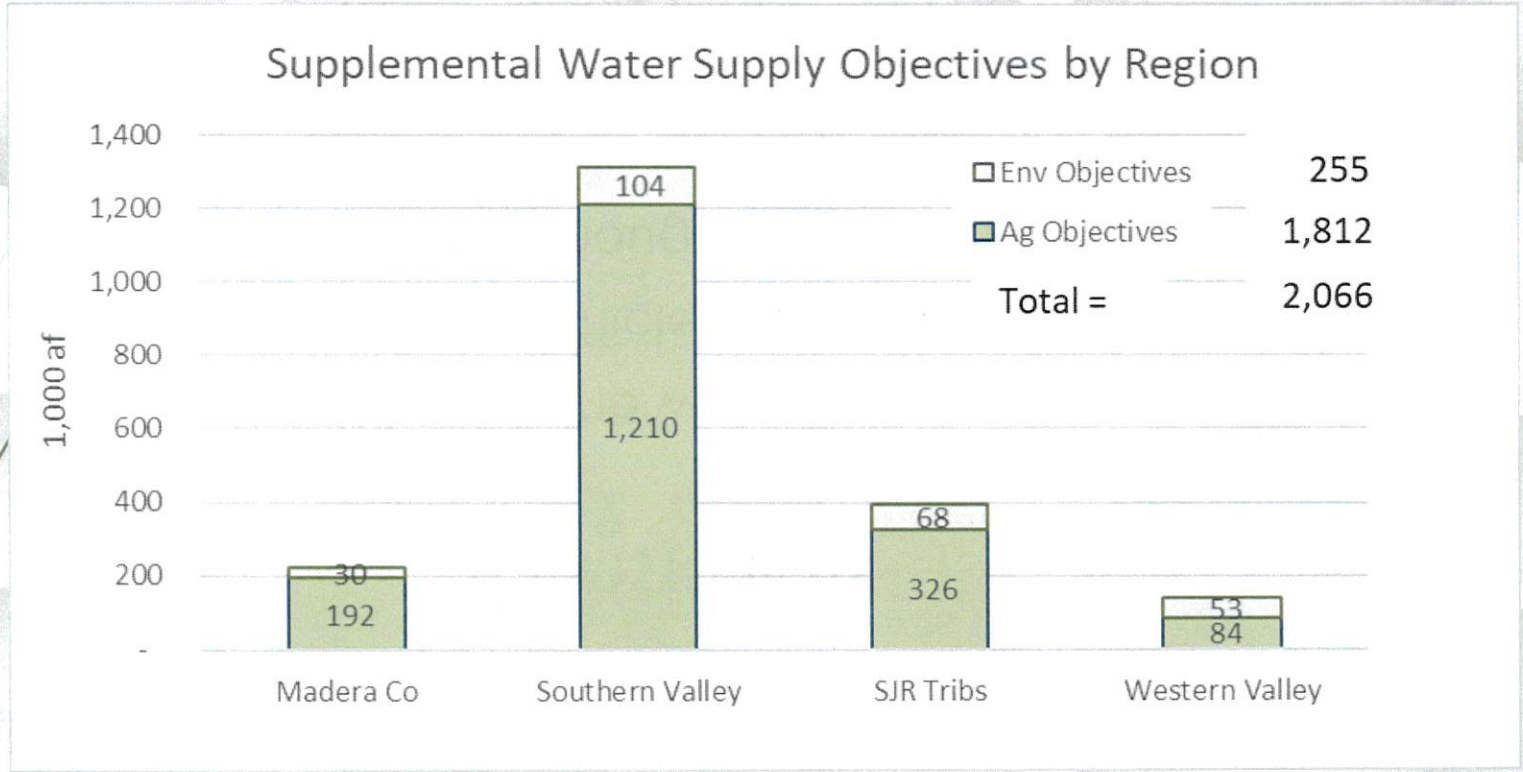
- Review of the path forward
  1. the importance of local recharge
  2. Delta regulations
- Farmer-to-farmer discussions
- Unified Valley Plan

Constraints

- Where is the water needed?
- Is there sufficient local water?
- Is there enough water to convey?
- How do you convey the water?
- Are there enough local projects to utilize the new water supply that would be made available?

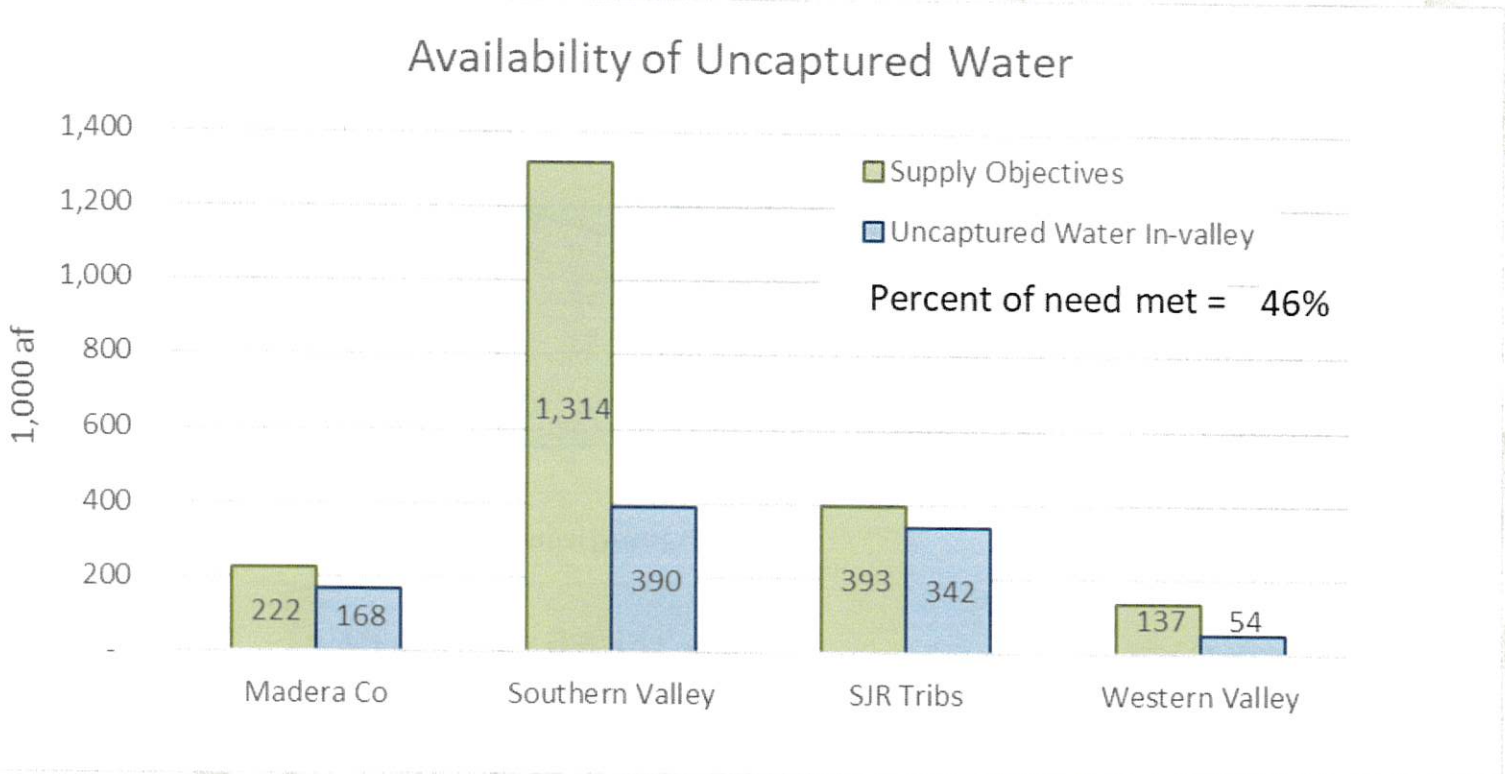
The Size of the Problem

(in 1,000 af)

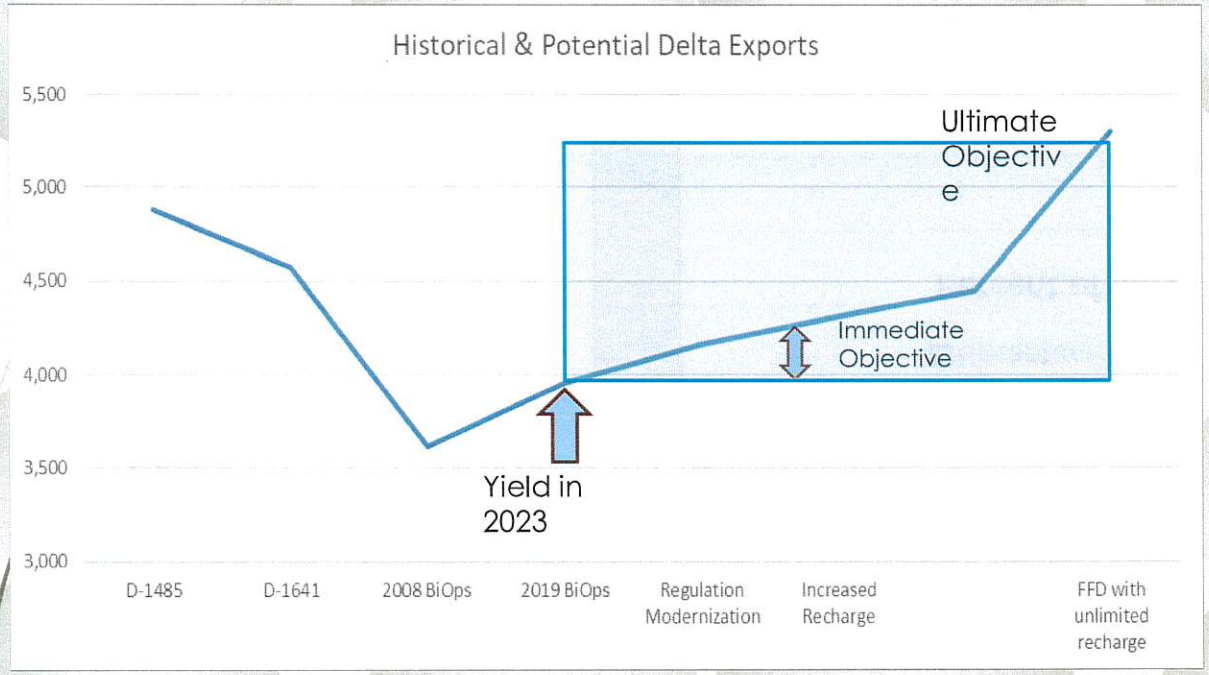


R1

Utilizing Uncaptured Water in the Valley:
May Meet Nearly Half the Need



The Potential Contribution of Delta Water



Immediate Objective:

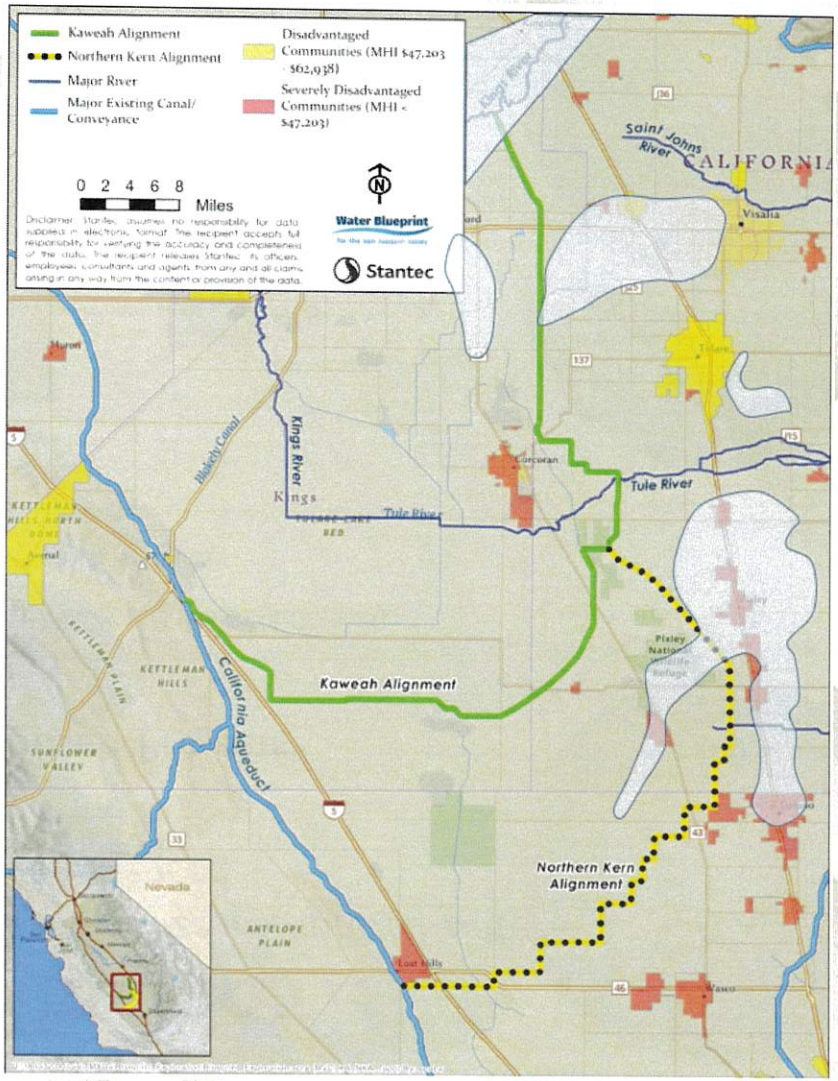
An additional 150,000 af/yr is available now from the Delta and could be captured by developing more recharge facilities. An additional 200,000 af/yr of Delta water could be made available by modernizing regulations.

Achieving the ultimate objective will require new facilities to divert, convey and store previously uncaptured Delta water.

Conveying Delta Water

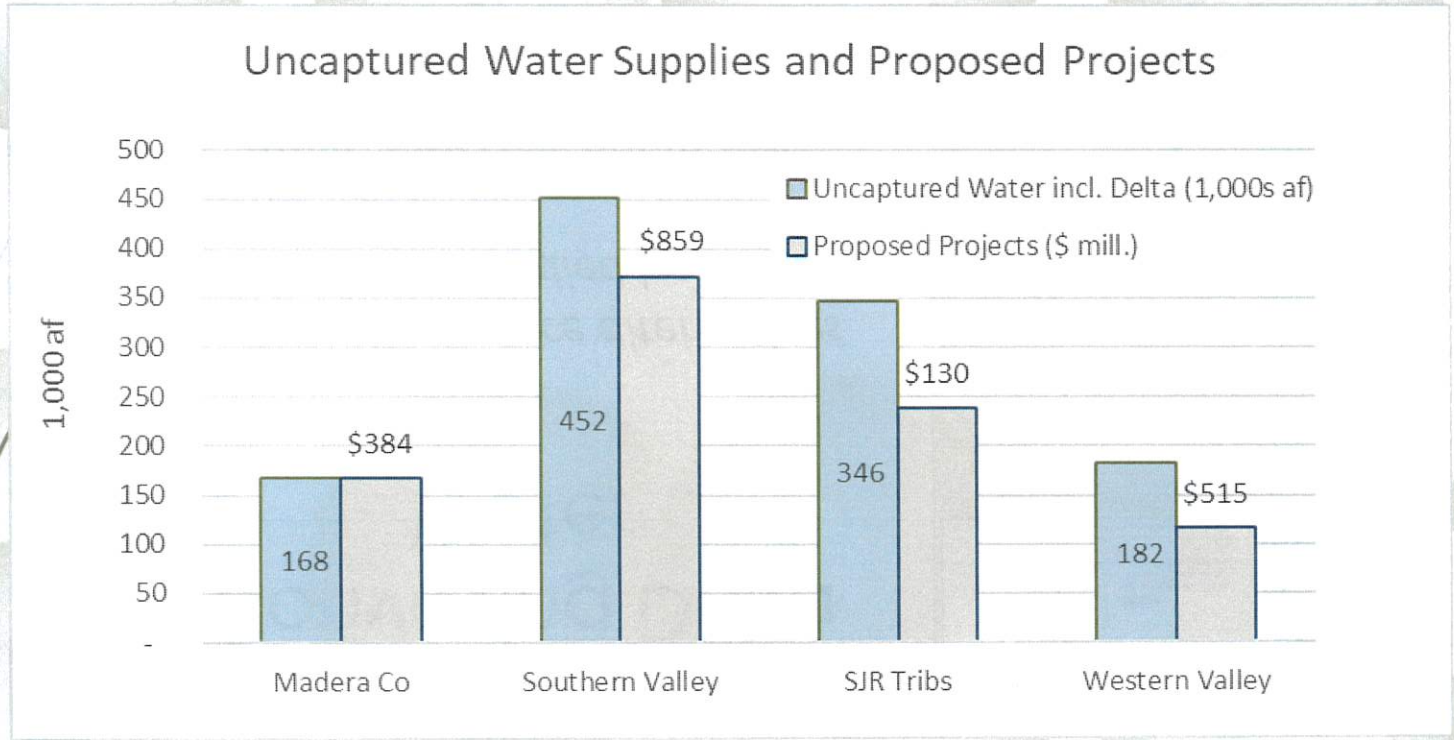
Two conveyance alternatives have been studied by Stantec.

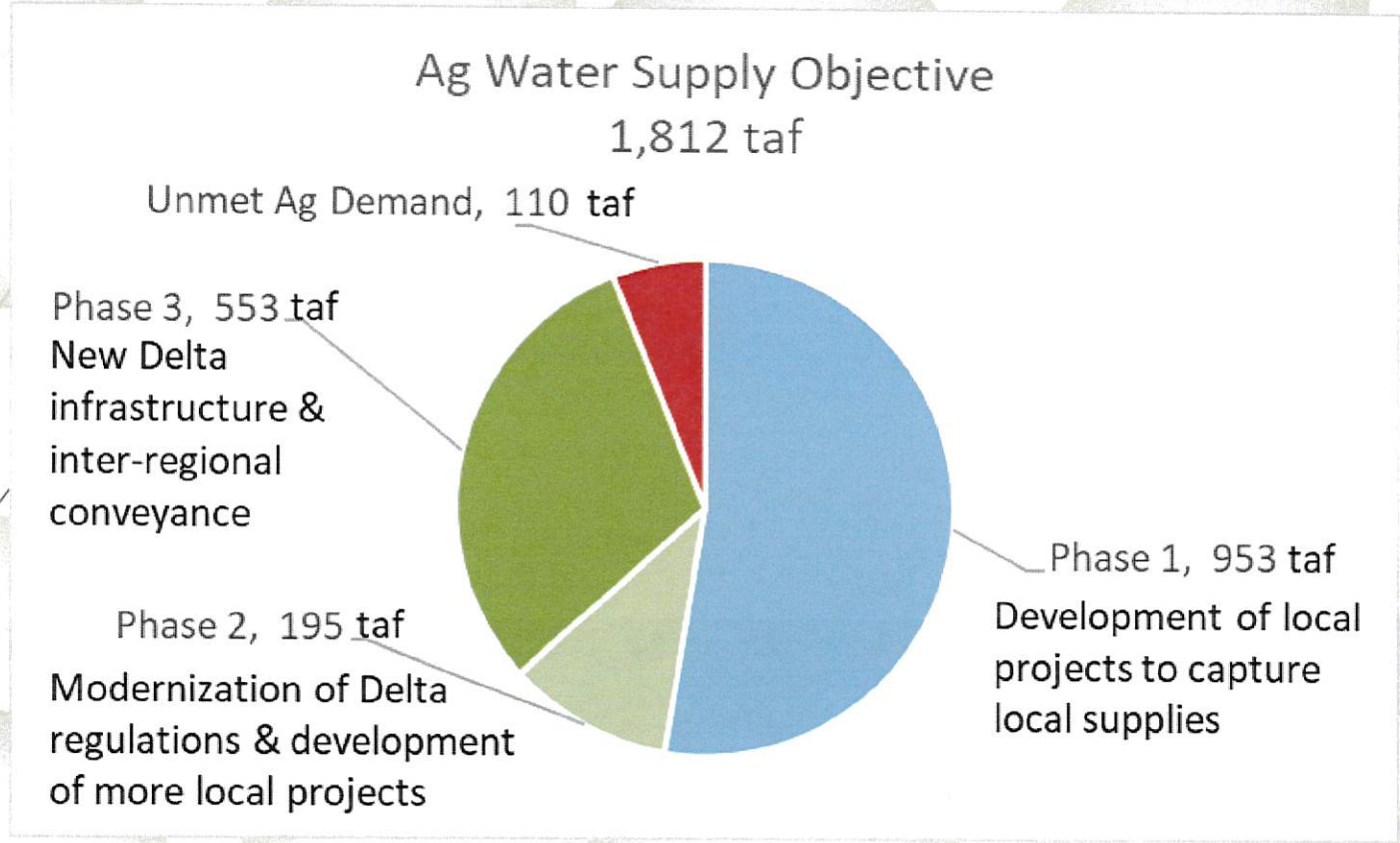
Areas with soils potentially suitable for recharge are shown in light blue.



The Near-Term Situation

Some GSAs have not identified enough projects to utilize uncaptured water – Most projects have not yet commenced.




Ag Water Supply Objective
1,812 taf
Unmet Ag Demand, 110 taf
Phase 3, 553 taf
New Delta infrastructure & inter-regional conveyance
Phase 2, 195 taf
Modernization of Delta regulations & development of more local projects
Phase 1, 953 taf
Development of local projects to capture local supplies

Decision Alternatives

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Decision Alternatives [Implementation phases]	Result/Consequences	Percent of Problem Solved	Farmland Lost (ac)	Jobs Lost (FTE)	Revenue Lost ($B/yr)	Capital Investment/ Annual Benefit ($B)
[O] Elected officials choose not to assist & local projects are not implemented.	Land fallowing & repurposing is the sole result.	0%	749,000	64,000	$5.4	$0/$0
[1] Maximize local projects & repair key infrastructure	Implementation of local projects. Increased use of currently uncaptured water.	47%	403,000	34,000	$2.9	$1.9/$2.5
[2] Modernize Delta Regulations	Optimum use of currently uncaptured water. More local projects added.	57%	333,000	28,000	$2.4	$2.4/$3.0
[3] All necessary local projects Repair of essential infrastructure Modernize Delta regulations New Delta facilities to protect fish	Disadvantaged communities protected. Valuable farmland preserved. Endangered species protection.	91%	86,000	7,000	$0.6	$4.4/$4.8

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A Needs Based Approach to Identifying Key Water Concepts & Projects for the SJV

5/24/2024

Scott@ResourceEconomics.net

Needs

1 Water Supply – Achieving Groundwater Sustainability

2 Water Supply - Environmental Enhancement

3 Flood Management

4 Water Quality

5 Water Supply Reliability

6 Water Conveyance & Reregulation Projects

Needs & Objectives

1 Water Supply – Achieving Groundwater Sustainability

Many subbasins cannot achieve groundwater sustainability by relying solely on increased use of local high flows. The purpose of this set of projects will be to deliver currently unused high flow water to areas with water shortages.

2. Water Supply - Environmental Enhancement

Various entities have specified objectives for the restoration of historic valley ecosystems to protect habitats for endangered species, shore birds and migratory birds. Some environmental needs involve meeting in-stream flow requirements at critical times while others involve consumptive use. Wildlife refuges and wetlands that were heavily dependent on groundwater now need to operate sustainably. Some refuges have insufficient level 4 supplies and therefore need additional supplies. The purpose of this set of projects is to develop supplies to meet new environmental needs.

3 Flood Management

Additional recharge capacity in the Valley will help mitigate peak flows but additional conveyance capacity is needed to export flood water from the Valley to avoid flood flows at Vernalis which can lead to flooding in the south Delta, possible loss of Delta Islands and loss of Delta export capabilities. The purpose of this set of projects is to modify peak flood flows to reduce flood damage in the San Joaquin Valley and Delta.

4 Water Quality

While water quality concerns are pervasive throughout the Valley, for the most part, these are being addressed through state and regional water quality plans and are best handled regionally. In some cases though, interregional cooperative programs can help address water quality problems that affect large areas. The purpose of these projects is to improve surface water quality through interregional cooperation.

5 Water Supply Reliability

The purpose of this effort is to review factors influencing water supply reliability – that is those factors that would stop water systems from performing well consistently. These factors might include natural disasters such as floods, earthquakes and droughts but also things like subsidence & aging infrastructure.

6 Water Conveyance & Reregulation Projects

Meeting the above objectives will require new infrastructure. However, with strategic planning, new facilities can serve multiple purposes, reducing costs and improving utility. The purpose of this set of projects is to optimally divert and convey water to meet water management needs in the SJV.

1. Water Supply – Achieving Groundwater Sustainability

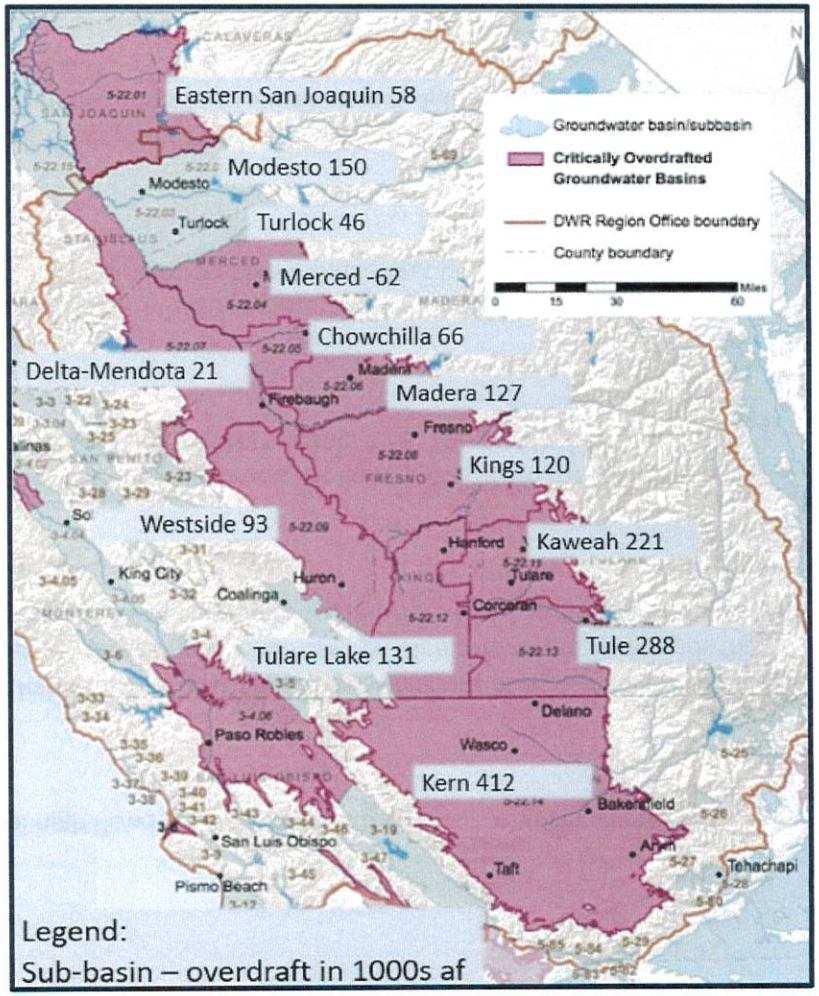
Purpose: to deliver currently unused high flow water to areas with water shortages

Estimated need*:

- agriculture & communities: ~2 maf
- environmental: ~1 maf (consumptive use ~ 400,000 af)

Conceptual Solutions:

1. SJR Tribs (Merced to ESJ) - use of local high flows, expansion of local distribution & increase of recharge capacity
2. Chowchilla & Madera – increase in recharge capacity to use local high flows and Delta imports, new conveyance from SJR, new conveyance from Mendota Pool
3. Kings – increase in recharge capacity to use local high flows
4. Tule, Kaweah, Tulare Lake
   increase delta exports, new conveyance from Aqueduct to Tulare County, increase of recharge capacity
5. Kern - increase delta exports, increase of recharge capacity
6. Delta-Mendota – increase in recharge capacity to use local high flows and Delta imports
7. Westside - increase delta exports, reclaim high salinity water, increase of recharge capacity (ASR)



* Draft Blueprint numbers for planning purposes – subject to change

Types of Projects that May Improve Water Supplies to Subbasins

Subbasin(s)	Local (within subbasin) Projects			Inter-regional Projects	
	Expand Recharge Capacity	Expand Distribution System	Treat Groundwater/ Waste Water	Delta Exports	Conveyance
1. SJR Tribs (Merced to ESJ)	✓	✓	✓		
2. Madera County (Chowchilla & Madera)	✓	✓	✓	✓	✓
3. Kings	✓	✓	✓		
4. Kaweah, Tule & Tulare Lake	✓	✓	✓	✓	✓
5. Kern	✓		✓	✓	✓
6. Delta Mendota	✓		✓	✓	
7. Westside	✓		✓	✓	

Storage Projects that May Improve Subbasin Water Supplies if Economically Feasible

CVP	Shasta Enlargement, Los Vaqueros Expansion, San Luis Enlargement, Mammoth Pool Enlargement
SWP	Los Banos Grande
Subbasin Projects	Raise Pine Flat Dam, Big Dry Creek, Local F-K Off-stream Projects Del Puerto Canyon Reservoir, Yokohl Valley, Fine Gold Creek Los Banos Creek Detention Reservoir Expansion

Delta Projects that May Improve Water Supplies

More efficient, science-based Delta standards and rules

Fish Friendly Diversions

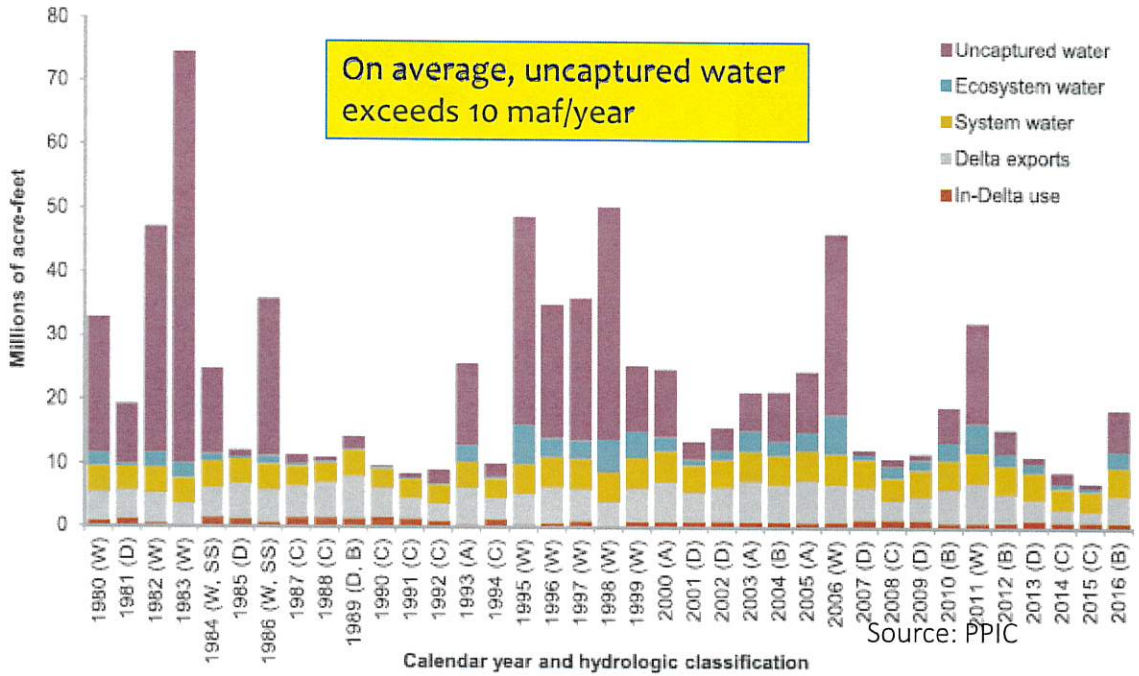
Alternative cross-Delta conveyance

Permanent operable barriers

Inflatable sill in Carquinez strait

Delta channel dredging program

FIGURE 3
Where Delta water went, 1980–2016



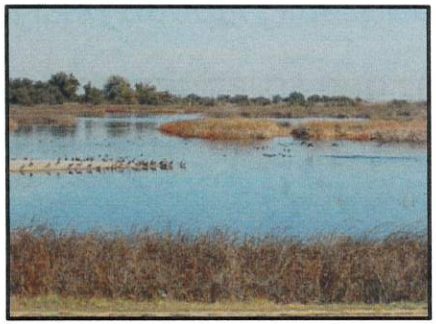
Source: PPIC

2. Environmental Enhancement - An Emerging Environmental Vision

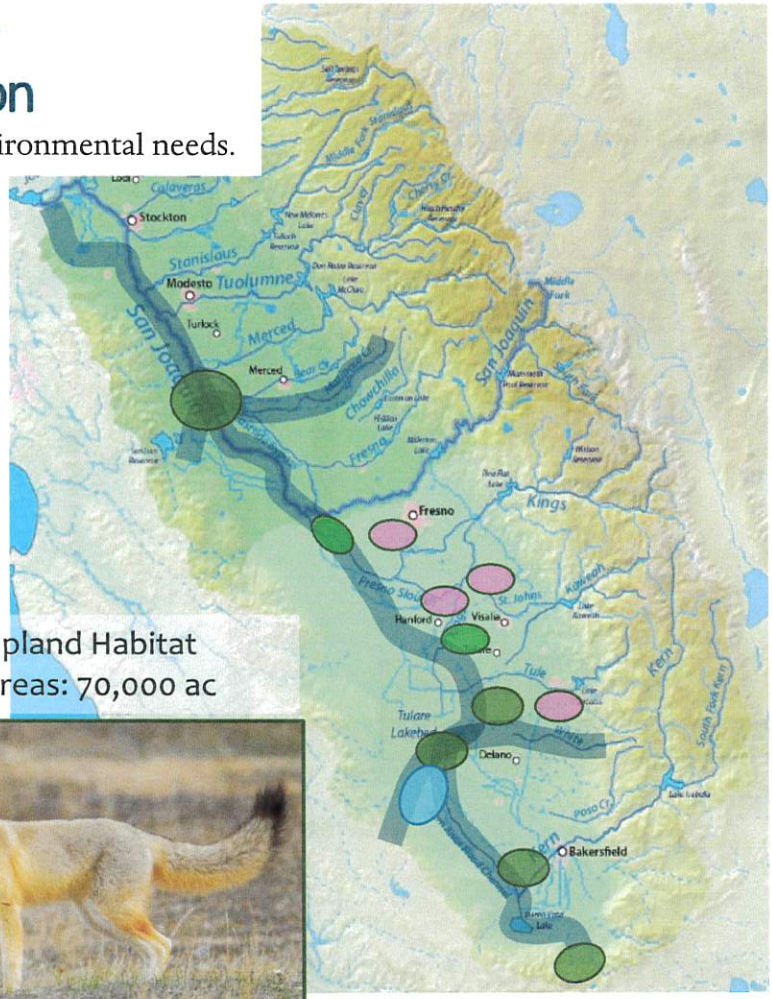
Purpose: to develop water supplies to meet new environmental needs.

Seasonal Wetland Enhancement: 7,000 ac

New Wildlife Areas: 5,000 ac



Upland Habitat Areas: 70,000 ac



Riparian Habitat (not shown): 18,000 ac

New Seasonal Wetlands/ Recharge: 25,000 ac

Flood plains & Wildlife Corridors: 30,000 ac

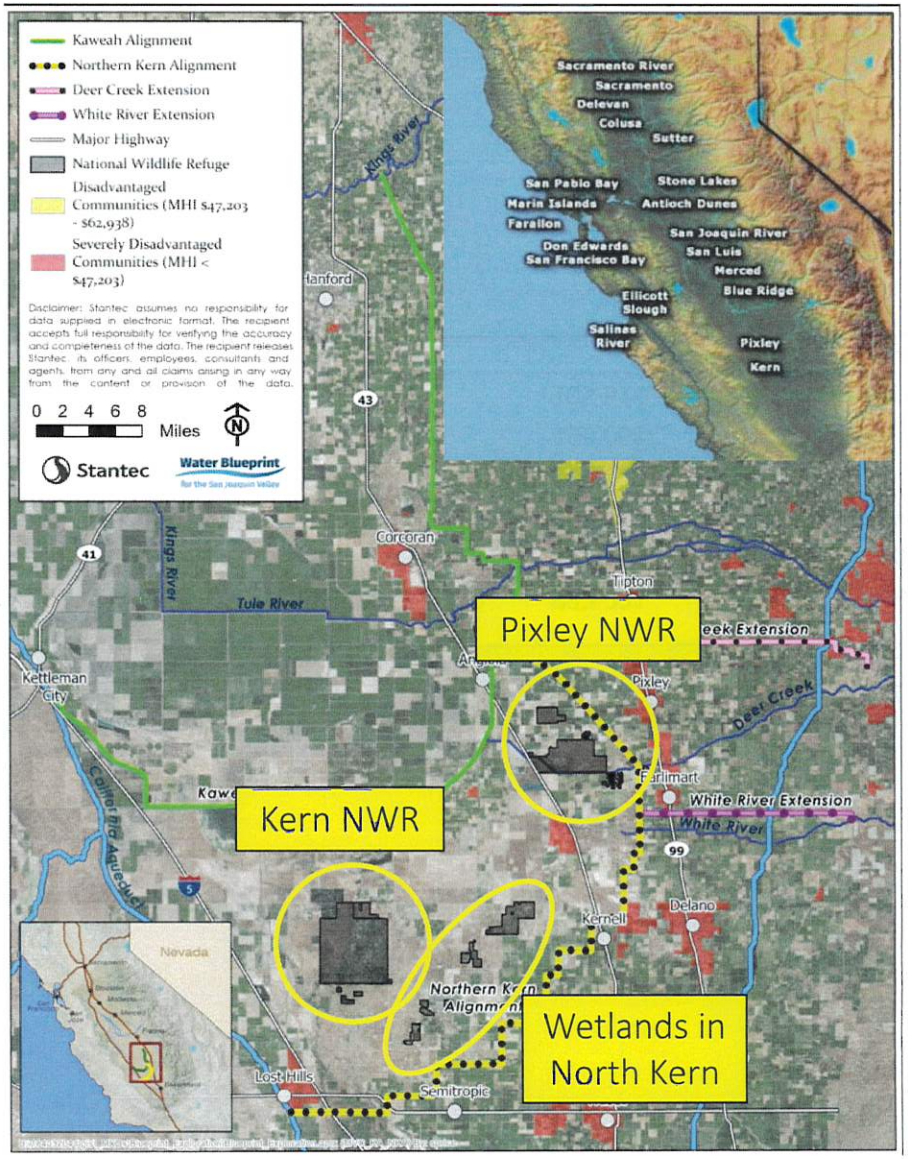
Ecosystem Needs

Subbasin		Alkali Desert Scrub	Aquatic	Floodplain	Grassland	Riparian	Saltbush	Vernal Pools	Wetlands	Woodland Habitat	Total
Total	Current	28,164	555	2,726	46,708	13,906	31,983	13,239	237,231	6,088	380,614
	Target (new)	106,694	11,563	61,009	114,037	17,779	92,386	0	32,614	14,654	408,258
	Total	134,858	12,118	63,736	160,745	31,685	124,370	13,239	269,844	20,741	831,336
New Water Requirement (af/ac)			6.0			3.0			5.0		
New Water Requirement (af)			69,380			53,336			163,068		285,784
Refuge Water (Incremental Level 4)									105,514		105,514
New Water Requirement incl. Refuge water											391,298

Refuge needs

REFUGE NAME	LEVEL 2 (ACRE-FT)	INCREMENTAL LEVEL 4 (ACRE-FT)	FULL LEVEL 4 (ACRE-FT)
San Joaquin Basin			
San Luis Unit[b]	19,000	0	19,000
West Bear Creek Unit[b]	7,207	3,603	10,810
East Bear Creek Unit[b]	8,863	4,432	13,295
Kesterson Unit[b]	10,000	0	10,000
Freitas Unit[b]	5,290	0	5,290
Merced National Wildlife Refuge	13,500	2,500	16,000
Los Banos Wildlife Area	16,670	8,330	25,000
China Island Unit[c]	6,967	3,483	10,450
Salt Slough Unit[c]	6,680	3,340	10,020
Volta Wildlife Area	13,000	3,000	16,000
Grassland Resource Conservation District	125,000	55,000	180,000
Subtotal	232,177	83,688	315,865
Tulare Basin			
Mendota Wildlife Area	27,594	2,056	29,650
Kern National Wildlife Refuge[d]	9,950	15,050	25,000
Pixley National Wildlife Refuge[d]	1,280	4,720	6,000
Subtotal	38,824	21,826	60,650
Contract Total	422,251	133,264	555,515

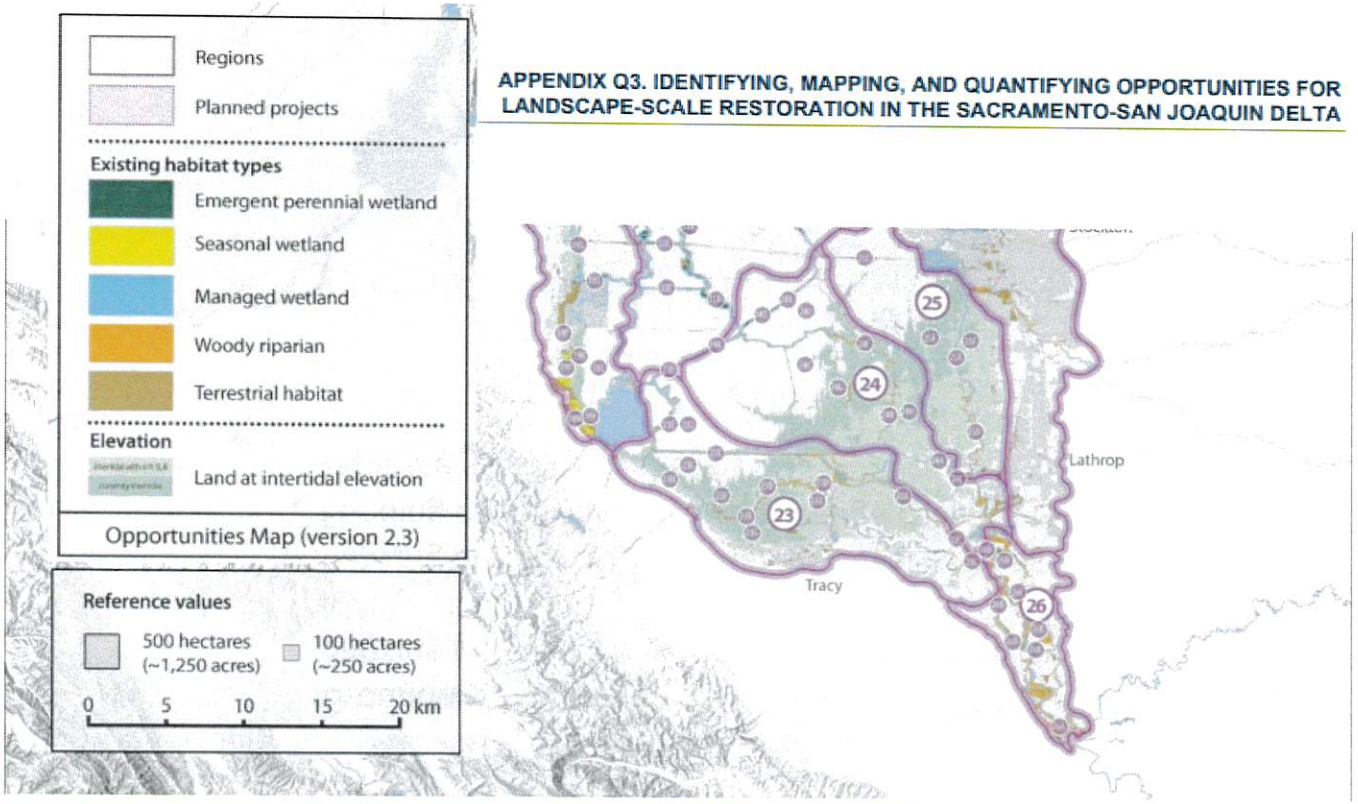
Source: CVPIA Refuge Water Supply Program
[a] Part of the Sacramento National Wildlife Refuge Complex
[b] Part of the San Luis National Wildlife Refuge Complex
[c] Part of the North Grasslands Wildlife Area
[d] Part of the Kern National Wildlife Refuge Complex



Delta Ecosystem Requirements – what to include?

Do we assume Healthy Rivers and Landscapes will adequately address in-stream flow requirements?

Should we consider a south and west Delta anadromous fish passage facility (technical issues: how to limit predator invasion; how to dry up and remove predators annually?)



Opportunities Map

This map illustrates the approximate locations of restoration opportunity sites throughout the Delta, corresponding to the restoration opportunities listed in Table 1-1. This map depicts the location of planned restoration projects and opportunities for ecological restoration in the Sacramento-San Joaquin Delta. The map extends from the eastern edge of Suisun Bay on the west, to present-day Stockton in the east; and from Fremont Weir State Wildlife Area in the north, to the lower San Joaquin River in the south.

Source: DSC Delta Plan

10

Conceptual State and Federal Projects to Provide Environmental Supplies

Conceptual solutions involving the storage of high flow water

Surface Storage

Sites Reservoir
Los Vaqueros Expansion
Shasta Enlargement
San Luis Enlargement
Los Banos Grande
Raise Friant Dam
Yokohl Valley
Fine Gold Creek
Mammoth Pool Enlargement

Groundwater Storage

Banking projects along the Friant to serve Pixley NWR
Banking projects to serve Refuge Level 4 needs
Funding of conveyance and recharge projects to facilitate seasonal wetlands

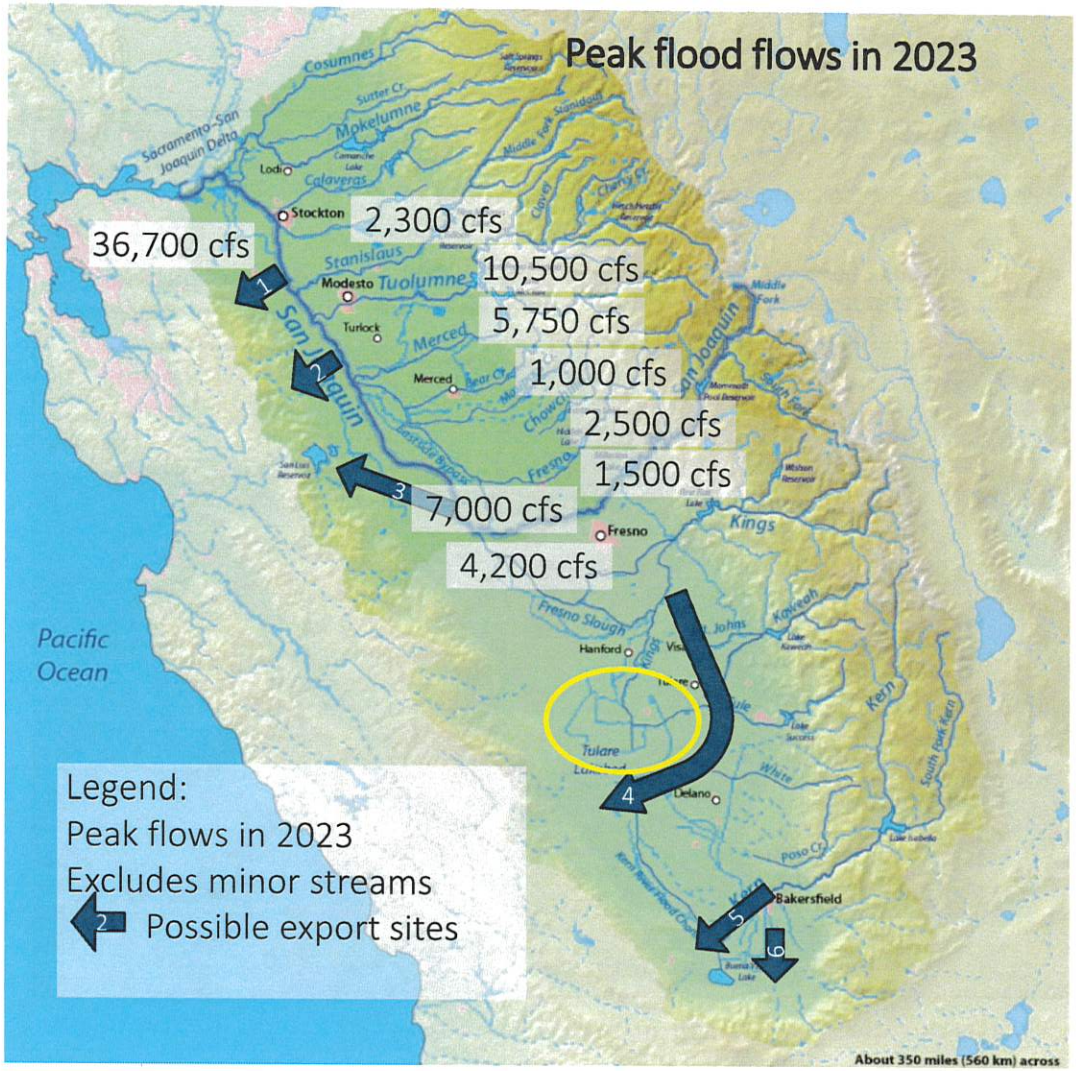
3. Flood Management Concepts

Purpose: to modify peak flood flows to reduce flood damage in the San Joaquin Valley and Delta (e.g. keep flows at Vernalis below 20,000 cfs)

Concepts for exporting flood water
1. Westley Wasteway
2. SJR-DMC Interties
3a. DMC Reverse Flow
3b. CCID Outside Canal
4. Mid-Valley Canal
5. Kern River – CA Aq Intertie
6. Arvin Edison – CA Aq Intertie

Concepts for temporarily storing flood water to lower flood peaks:
1. Westlake Farms
2. Tulare Lake storage
3. Restoration and reconnection of floodplains to rivers

Concepts for conjunctively using surface storage to store more flood flows without harming surface rights holders – (is this a subbasin management issue beyond the scope of the UVP?)



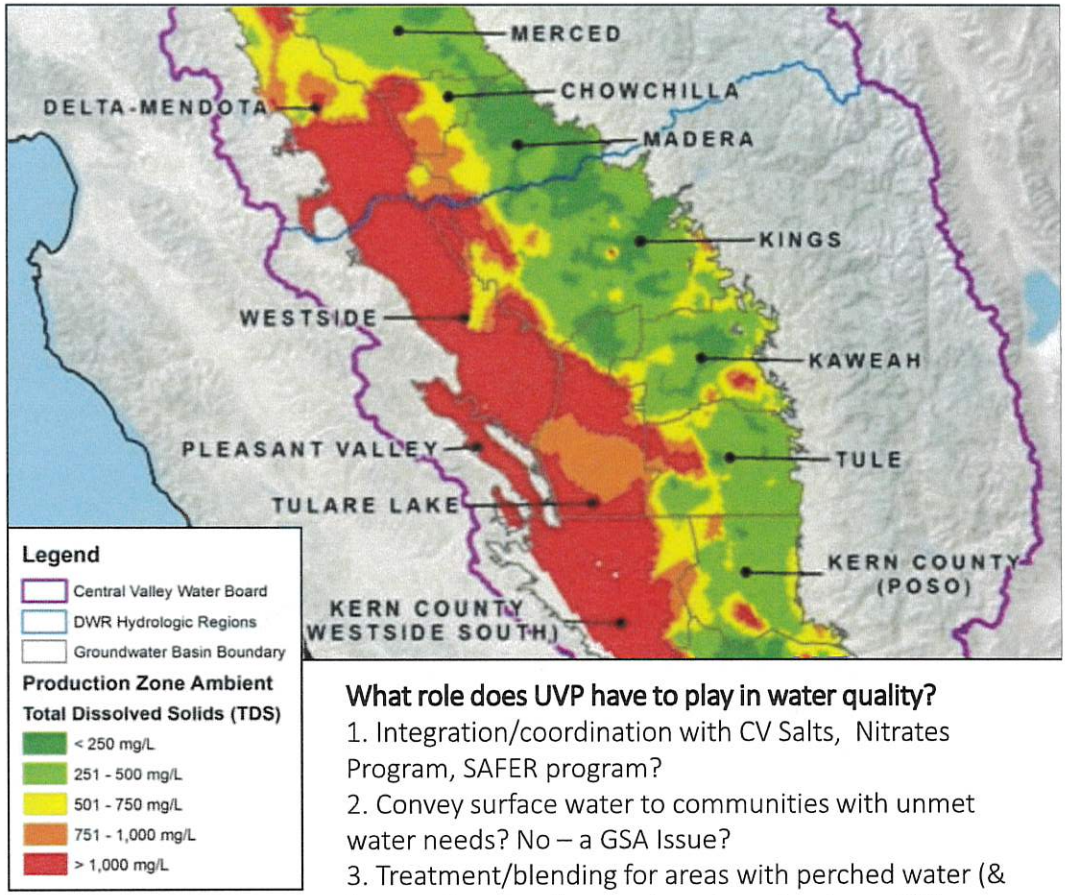
4. Water Quality

Purpose: to improve surface water quality through interregional cooperation.

Conceptual Solutions

a. South Delta recirculation in summer/fall
b. Permanent operable barriers in the south Delta
c. Treatment in areas with contaminated drain water
d. Treatment in areas with salty perched water
e. Inflatable sill in Carquinez Strait

Salinity



What role does UVP have to play in water quality?

1. Integration/coordination with CV Salts, Nitrates Program, SAFER program?
2. Convey surface water to communities with unmet water needs? No – a GSA Issue?
3. Treatment/blending for areas with perched water (& how to dispose of treated waste-water stream?)?

5. Water Supply Reliability

Purpose: to review factors influencing water supply reliability – that is those factors that would stop water systems from performing well consistently. These factors might include natural disasters such as floods, earthquakes and droughts but also things like subsidence & aging infrastructure.

Conceptual Solutions

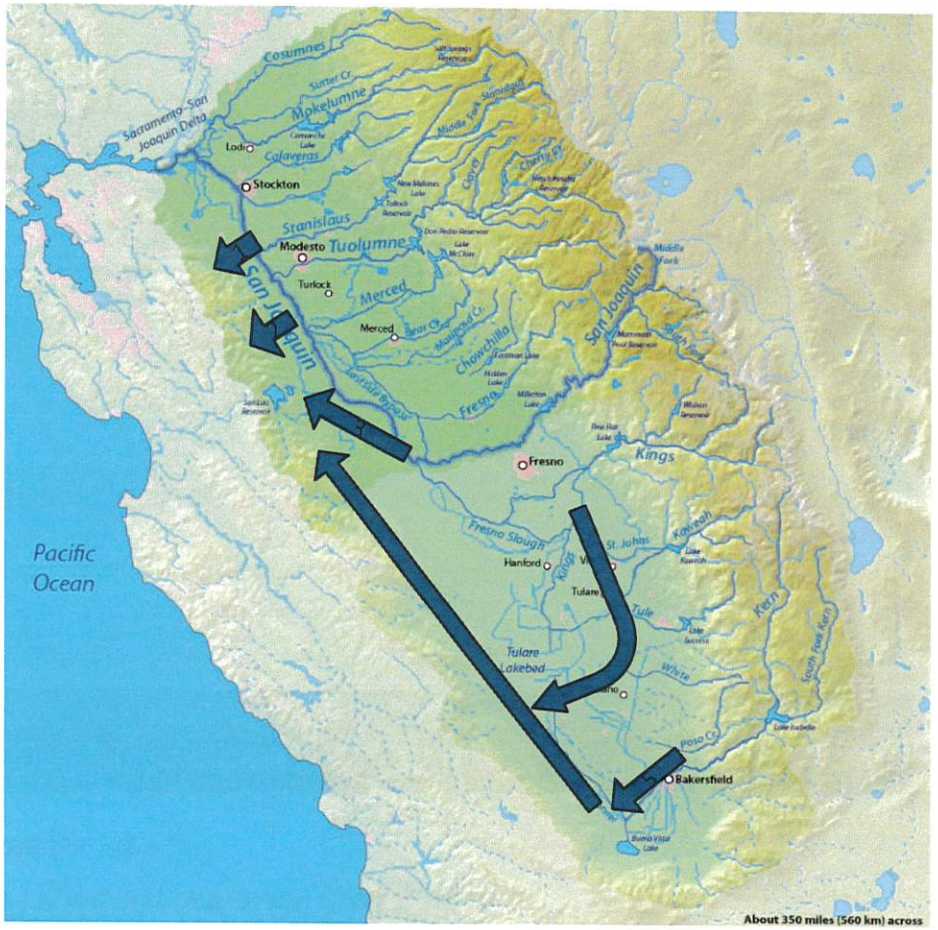
Identify and incentivize groundwater recharge projects throughout the Valley
Improve delivery of SWP and CVP water to recharge banking areas.
Provide operational flexibility and water transfers in the event of extended canal outages, loss of canal pumping plants

Loss of Delta Export capacity, loss of SLR, loss of California Aqueduct/DMC

Need to deliver groundwater and/or surface water to SLR, DMC, California Aqueduct. All conceptual flood management projects help in this regard. In the event of a Delta failure, may need to move water backwards from CVC to SLR (i.e. reverse flow California Aqueduct)

Loss of FKC

Need to deliver groundwater and/or surface water to FKC. Do Class 1 contractors have sufficient well capacity to survive an extended period without Friant Water? If not, need a well pump-in system (distant from FKC to avoid subsidence).



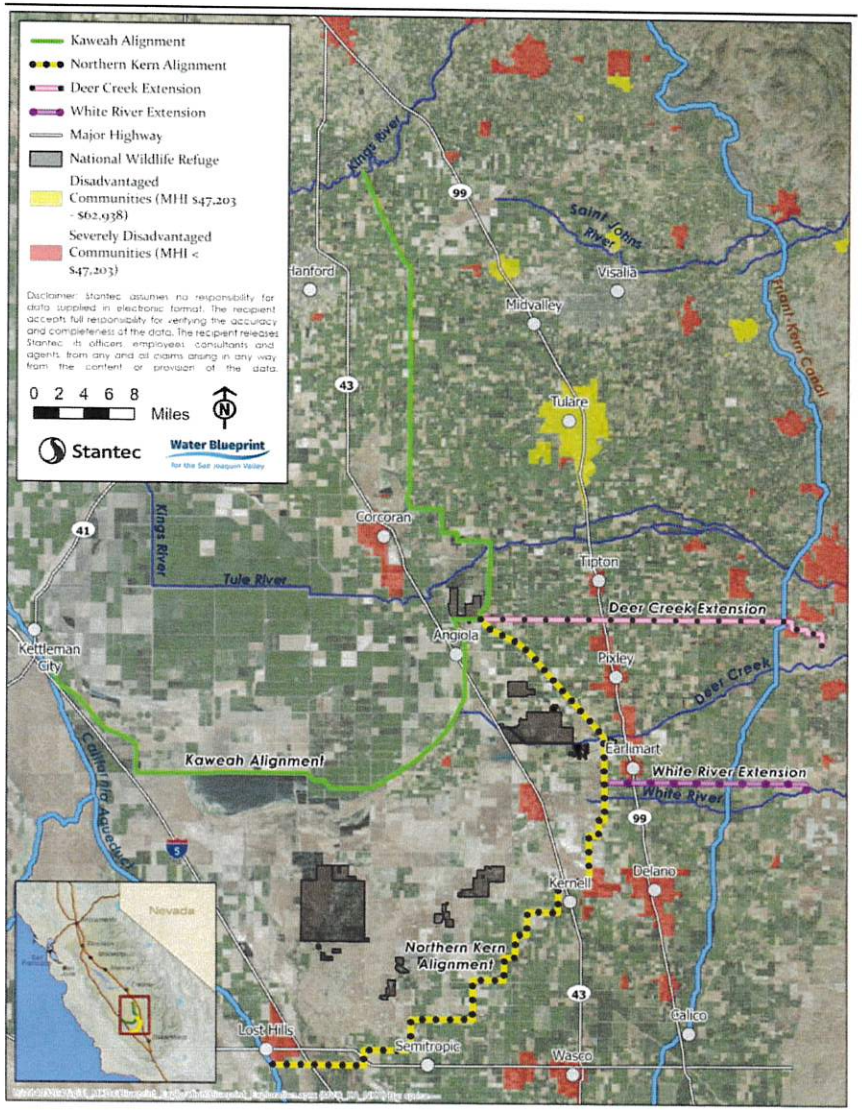
6. Conveyance & Reregulation Projects that May Improve Water Supplies

Purpose: to optimally divert and convey water to meet water management needs in the SJV

Conceptual Projects	Groundwater Sustainability	Environmental Enhancement	Flood Management	Water Quality	Supply Reliability
Restore capacity in existing facilities: FKC, DMC, CAq	✓	✓	✓	✓	✓
Bidirectional connections SJR<-->DMC: Westley, Volta, Patterson, CCID Outside Canal, DMC Reverse Flow	✓		✓	✓	✓
Bidirectional MVC: CAq <--> King River	✓	✓	✓		✓
Increase Delta exports without stressing the Delta ecosystem: fish friendly diversions, science based regs.	✓	✓		✓	✓
Increase SJR diversions during high flows: east Madera conveyance, FKC recharge, remove FKC bottlenecks	✓	✓	✓		✓
Bidirectional MVC <--> Calloway Canal	✓		✓		✓
Expand Tejon Unit & Arvin Edison conveyance from FKC to CAq	✓		✓	✓	✓
Bidirectional canal Mendota Pool <--> Chowchilla Bypass	✓		✓		✓
Reverse flow CAq CVC to SLR					✓
Temporary Storage around Tulare Lake	✓	✓	✓	✓	✓

CCID: Central California ID; Caq: California Aqueduct; DMC: Delta Mendota Canal, FKC: Friant-Kern Canal; MVC: Mid Valley Canal; SJR – San Joaquin River; SLR: San Luis Reservoir

6. Conveyance



7. Programmatic and Regulatory Initiatives

Water Supply

- Reoperation & Coordinated Operations of SWP, CVP and Friant (PPIC 2019, Table 2.2)
- Place-of-use adjustments to maximize recharge
- Authority for river watermasters to manage diversions to groundwater storage
- Science-based Delta regulations
- Expand CVP Place of Use to Entire Valley
- DWR Water supply contracts for Delta farmers

Environmental

- Simplified Safe Harbor permitting
- Simplified permitting for ecosystem restoration
- Ecosystem HCPs/NCCPs
- Strategic multi-benefit land repurposing (plan & incentives to ag retire land integral for environmental enhancement – see environmental vision)
- Healthy Landscapes and Rivers
- DSC Delta Plan

Flood Management

- Delta Channel dredging program
- Streamline stream- and levee-maintenance permitting in conjunction with habitat conservation
- Advanced storm forecasting and monitoring

Water Quality

- CV Salts Coordination

Water Supply Reliability

Water Conveyance

SAN JOAQUIN VALLEY WATER
Collaborative Action Program

Plenary Group Meeting
Agenda

Tuesday, May 28, 2024 | 3:00-5:00

Meeting Link: https://fresnostate.zoom.us/j/85955468969

Time	Item	Description
3:00	1	**Call to Order - Ann** a. Review Agenda - Ann b. Updates – Ann
3:15	2	**Potential Impacts of No Action – Ellen Hanak, PPIC**
3:55	3	**County Roles and Capacity – Stephanie Anagnoson, Madera County**
4:20	4	**Sierra San Joaquin Jobs – S2J2 (Formally Jobs First) – Jim Kramer and Team Leads (Attachment A)**
4:55	5	**July 8-9 In-Person Meeting - Sarah**
5:00	6	**Adjourn - Sarah**

(Attachment A) Outline for the CAP's Work Product for S2J2

S2J2 One Water Work Group

Draft 5/24/24

S2J2 Template

I. Problem Statement
II. Investment Strategies
III. Funding Models & Sources
IV. Stakeholder Map
V. Barriers and Potential Mitigation Pathways
VI. Path Forward

The Draft CAP Annotated Outline

I. Problem Statement and Opportunity
   A. Many Valley Residents Lack Reliable, Safe, Affordable Drinking Water
   B. The Gap Between Water Demand and Supply is Substantial
   C. Remaining Natural Areas are Not Adequate to Sustain Fish and Wildlife
   D. Infrastructure is Out of Date
   E. Inconsistent Policies at the Local, State, and Federal level and the Burden on Local Government
   F. Organization Capacity is Lacking to Accomplish Current Responsibilities and Needs
   G. SGMA Challenge and Opportunity
II. Investment Strategies (including funding needs)
   A. Safe Drinking Water
      1. State Board Drinking Needs Assessment for public water systems, state smalls, domestic wells and interim solutions
      2. Operation and maintenance
      3. Organizational capacity
      4. Challenges and improvements
      5. Municipal wastewater, stormwater, and water supply highlighted as need but no CAP recommendations
   B. Ecosystem Restoration
      1. Existing plans and studies to identify aquatic and terrestrial habitat needs
      2. Estimate costs based on acreage
      3. Address water quantity needs
      4. Organizational capacity
      5. Operation, management, and stewardship
      6. Challenges and improvements
   C. Water Supply
      1. Infrastructure improvements
         a. Water Conveyance (Interregional and regional)

b. Water Storage (Surface and groundwater)
c. Diversified Supply Development
    i. Water Recycling
    ii. Brackish Desalination
    iii. Groundwater Cleanup
d. Water Conservation
    i. Canal Linings
    ii. Reservoir reoperation
    iii. Watershed Resilience
    iv. System Efficiency projects

2. Groundwater recharge
    a. Expand Flood MAR studies
    b. Technical assistance to implement Flood MAR studies
    c. Flood-MAR recharge project implementation
    d. Recharge basins for Disadvantaged Communities
    e. Groundwater monitoring
3. Challenges and improvements

D. Land Repurposing
1. Expand MLRP planning and implementation of pilots
2. Expand Landflex
3. Solar investment (coordinate with other S2J2 work group)
4. Habitat
5. Recharge
6. Community benefits
7. Alternative agricultural land uses

E. Demand Reduction
1. Allocation programs
2. GSA support

III. Stakeholder Map (TBD)

IV. Barriers and Potential Mitigation Pathways (addressed for investment categories and overall to TBD)

V. Path Forward (TBD)

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